

FIG. 1

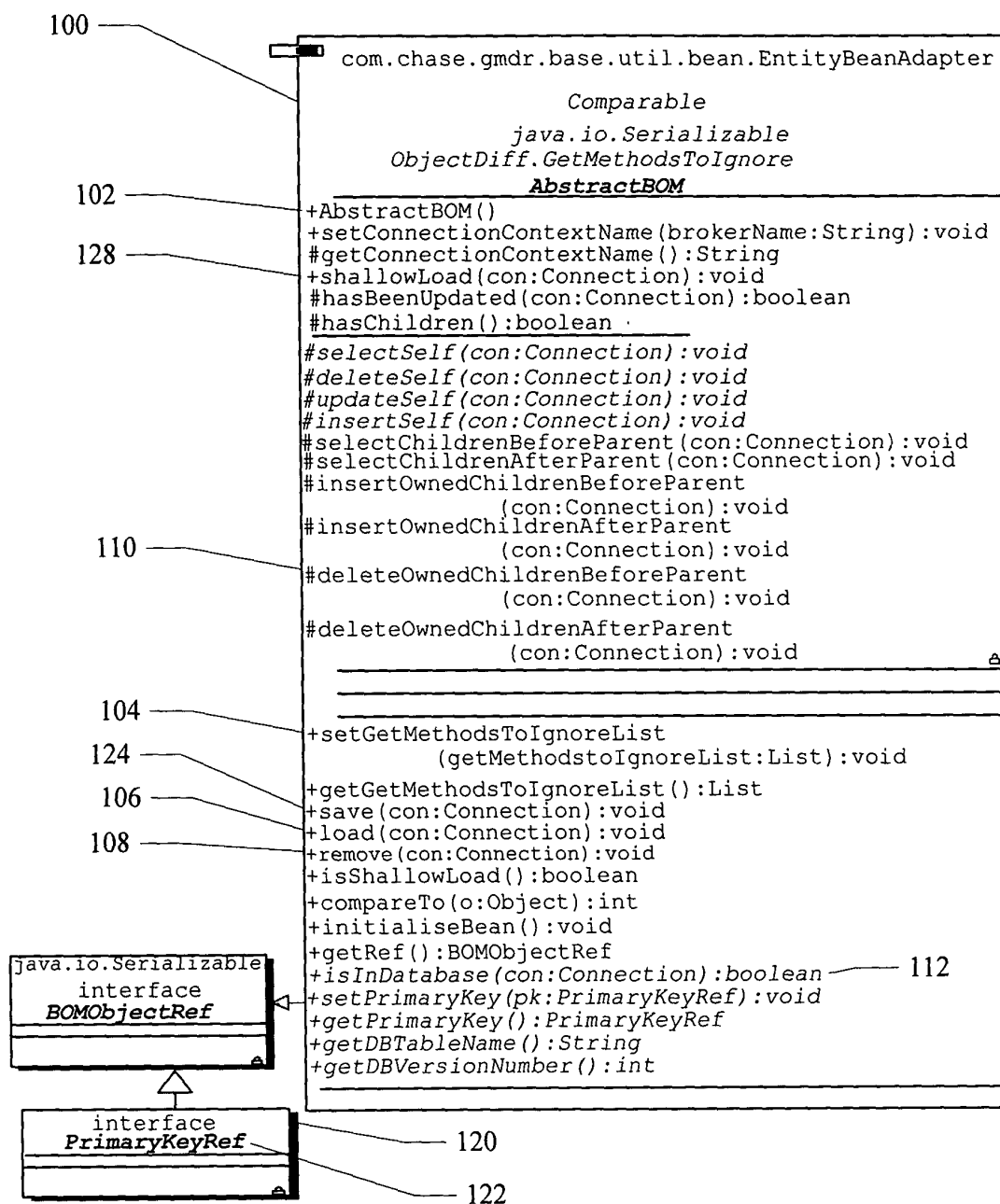


FIG. 2



```
public void remove(Connection con) throws PersistenceException {  
    deleteOwnedChildrenBeforeParent(); // if owns children  
    super.remove(con); // which calls this class  
    deleteOwnedChildrenAfterParent(); // if owns children  
}
```

FIG. 3



```
public void load(Connection con) throws PersistenceException {  
    selectOwnedChildrenBeforeParent(); // if owns children  
    super.load(con); // which calls this class  
    selectOwnedChildrenAfterParent(); // if owns children  
}
```

FIG. 4



```
public void save(Connection con) throws PersistenceException {  
    insertOwnedChildrenBeforeParent(); // if owns children  
    super.save(con); // which calls this class  
    insertOwnedChildrenAfterParent(); // if owns children  
}
```

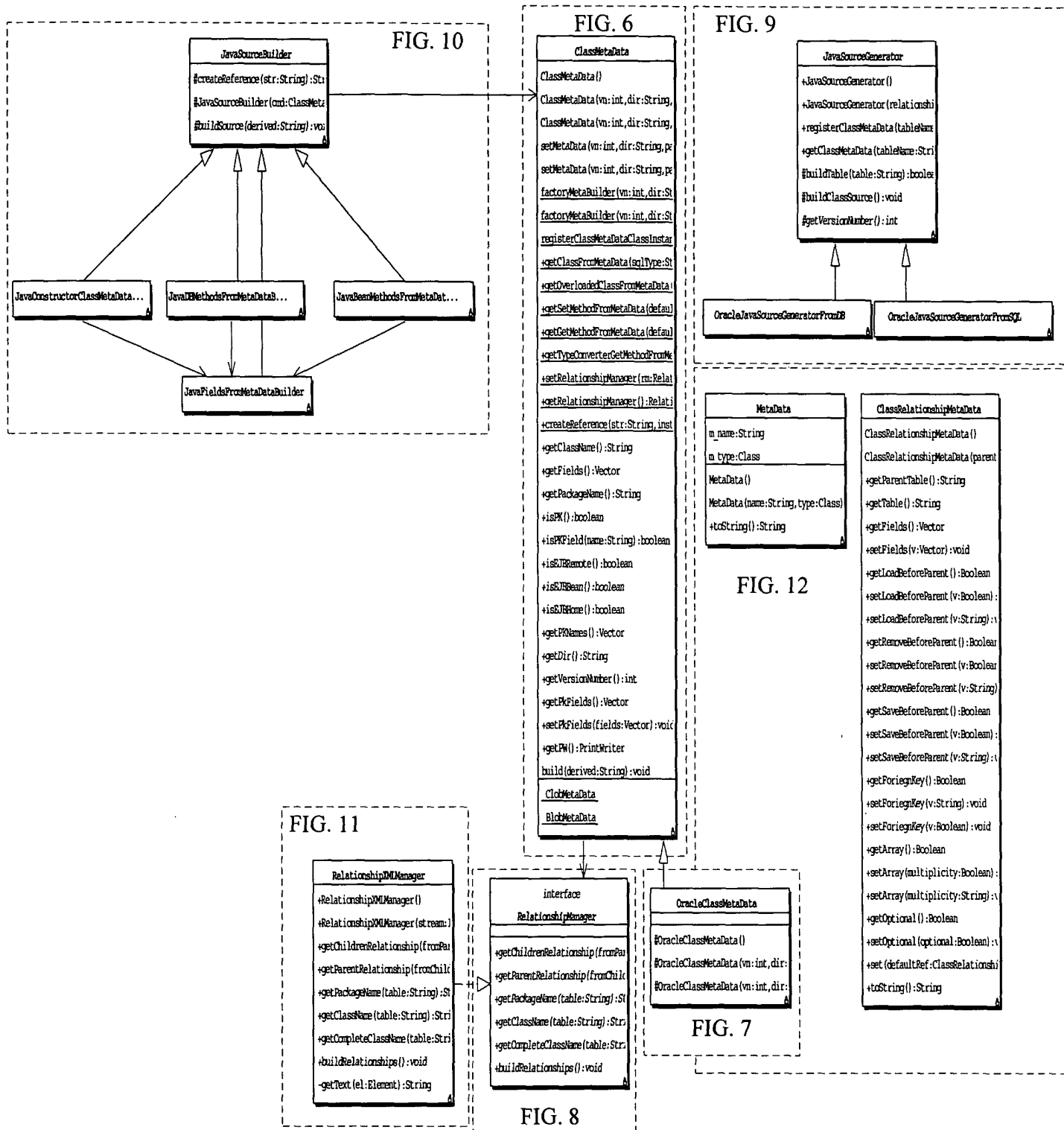


FIG. 6

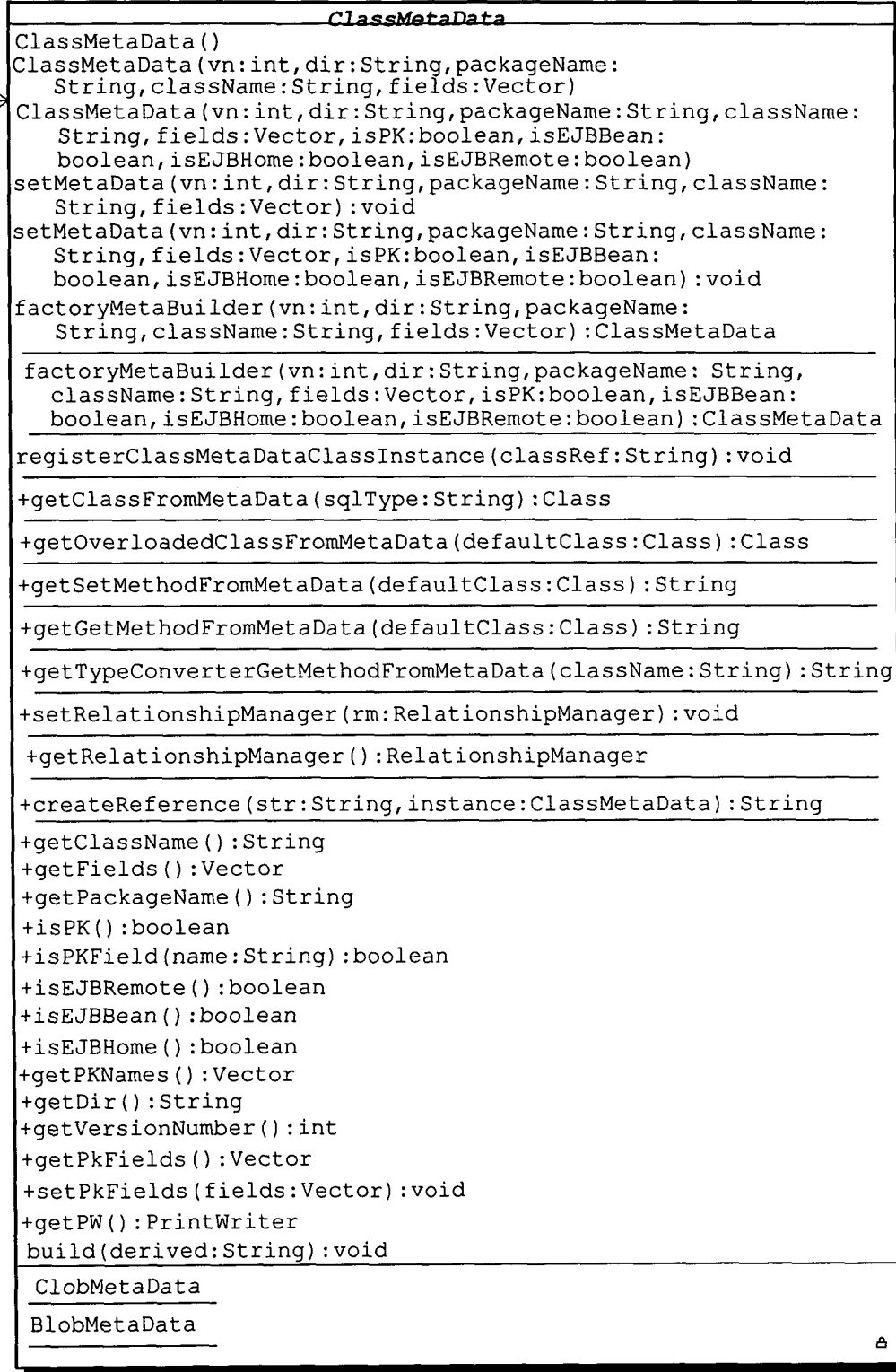


FIG. 7

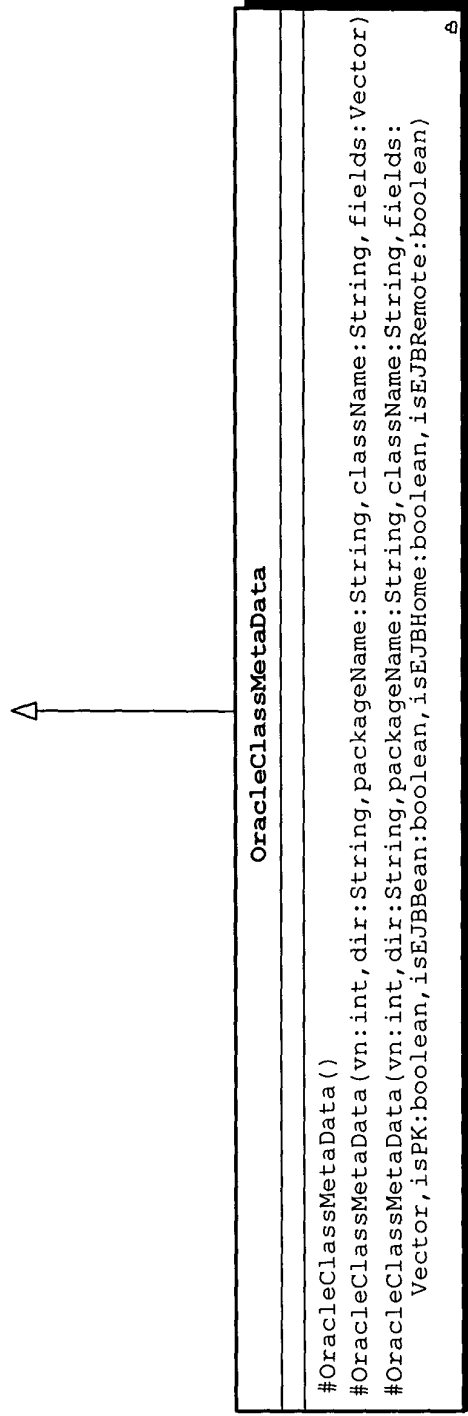


FIG. 8

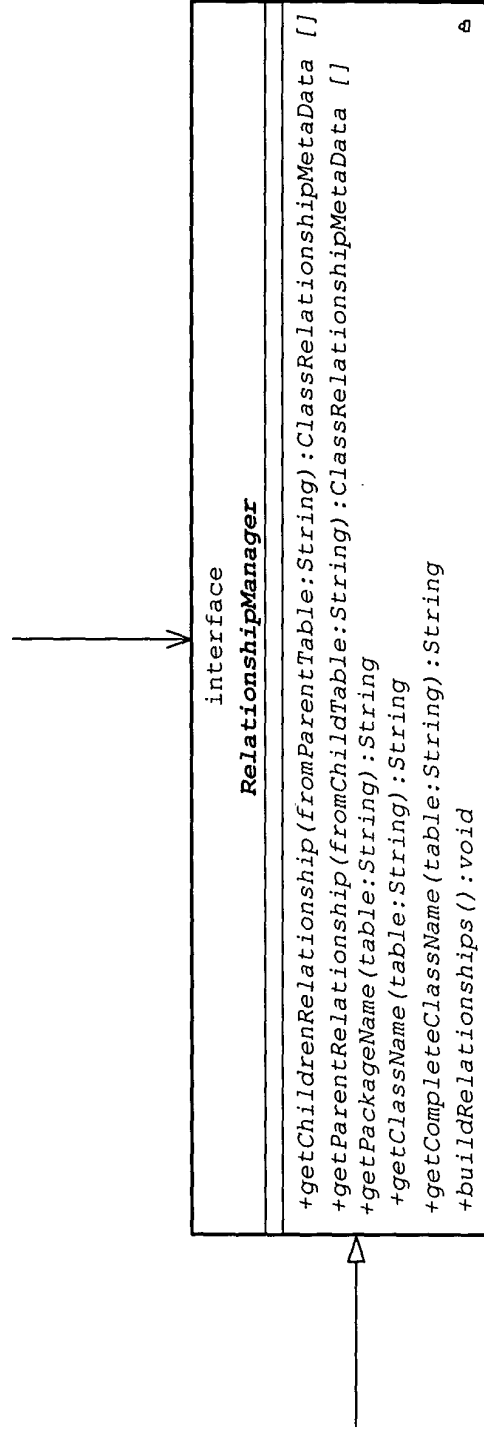


FIG. 9

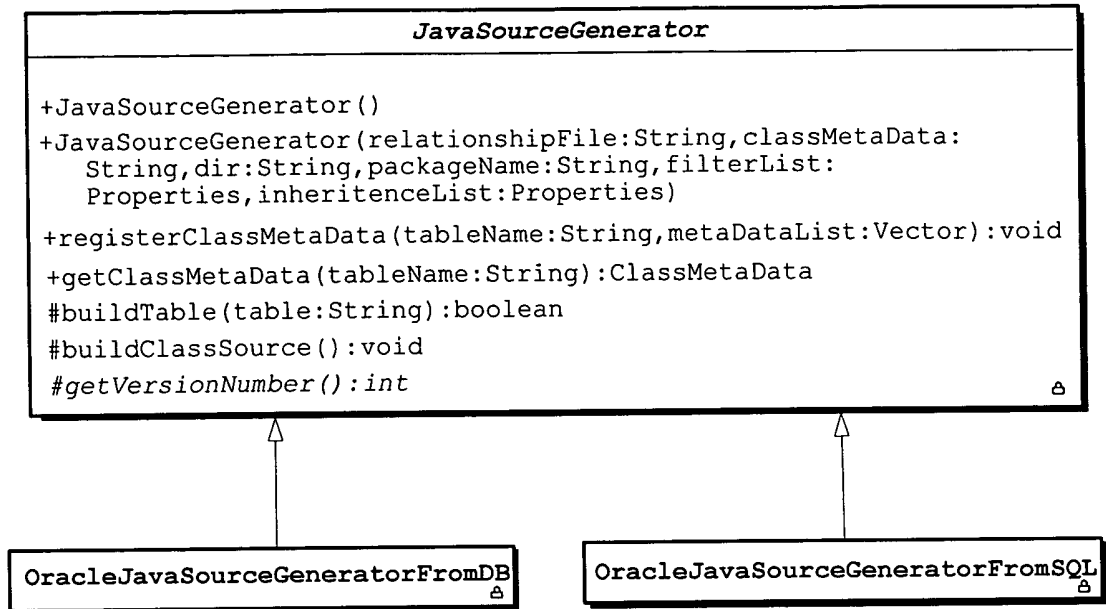


FIG. 10

ATTY DOCKET 14846-23

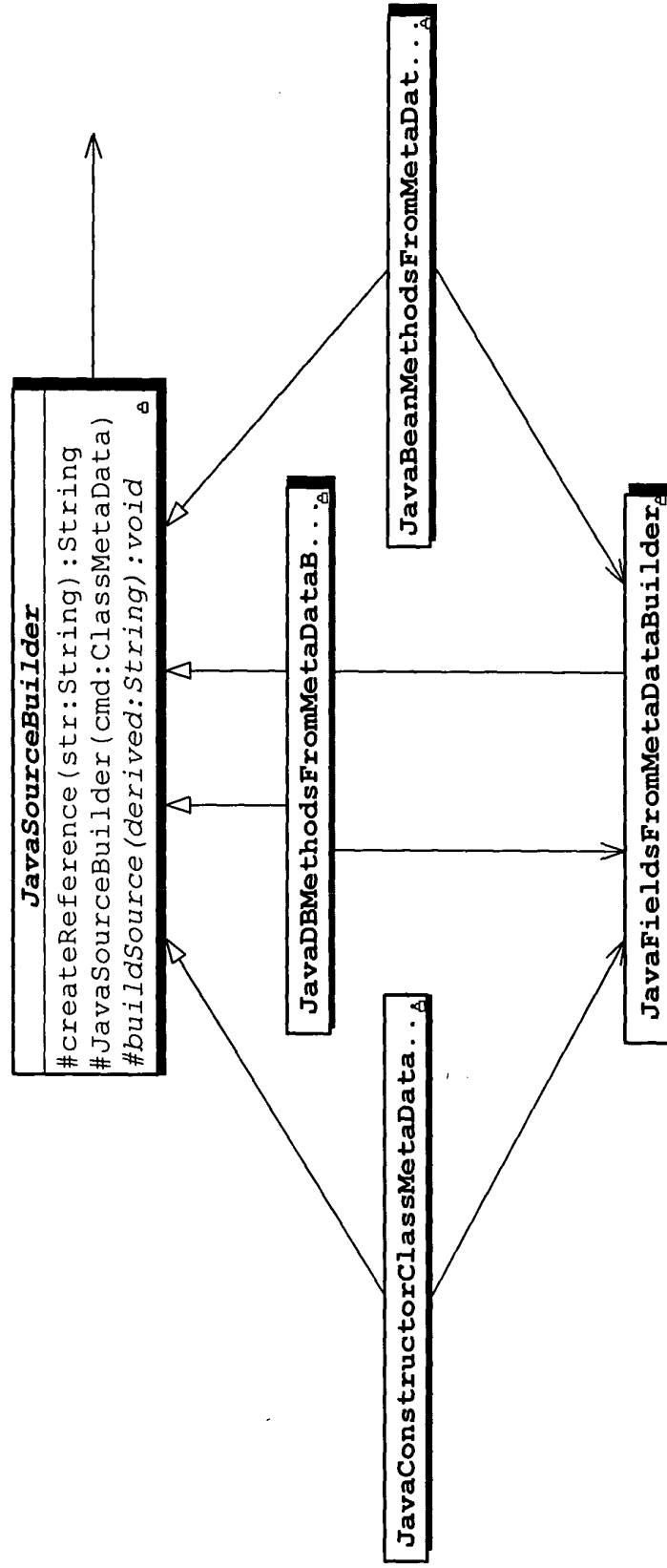




FIG. 11

RelationshipXMLManager
<pre>+RelationshipXMLManager() +RelationshipXMLManager(stream:InputStream) +getChildrenRelationship(fromParentTable:String):ClassRelationshipMetaData [] +getParentRelationship(fromChildTable:String):ClassRelationshipMetaData [] +getPackageName(table:String):String +getClassName(table:String):String +getCompleteClassName(table:String):String +buildRelationships():void -getText(el:Element):String</pre>

a



FIG. 12

MetaData	ClassRelationshipMetaData
m_name:String m_type:Class MetaData() MetaData(name:String, type:Class) +toString():String	ClassRelationshipMetaData() ClassRelationshipMetaData(parent:String, name:String) +getParentTable():String +getTable():String +getFields():Vector +setFields(v:Vector):void +getLoadBeforeParent():Boolean +setLoadBeforeParent(v:Boolean):void +setLoadBeforeParent(v:String):void +getRemoveBeforeParent():Boolean +setRemoveBeforeParent(v:Boolean):void +setRemoveBeforeParent(v:String):void +getSaveBeforeParent():Boolean +setSaveBeforeParent(v:Boolean):void +setSaveBeforeParent(v:String):void +getForiegnKey():Boolean +setForiegnKey(v:String):void +setForiegnKey(v:Boolean):void +getArray():Boolean +setArray(multiplicity:Boolean):void +setArray(multiplicity:String):void +getOptional():Boolean +setOptional(optional:Boolean):void +set(defaultRef:ClassRelationshipMetaData):void +toString():String

**Normal Example**

```
<parent>
  <name>TRADE_LEG</name>
  <child>
    <table>default</table>
    <loadBeforeParent>false</loadBeforeParent>
    <removeBeforeParent>false</removeBeforeParent>
    <saveBeforeParent>true</saveBeforeParent>
    <multiplicity>*</multiplicity>
    <fields>SEC_ID</fields>
  </child>
  <child>
    <table>MTM_FIXING_TRADE_LEG</table>
    <loadBeforeParent>false</loadBeforeParent>
    <removeBeforeParent>true</removeBeforeParent>
    <saveBeforeParent>false</saveBeforeParent>
    <fields>SEC_ID</fields>
    <fields>TRADE_ID</fields>
    <fields>TRADE_LEG_ID</fields>
  </child>
  <child><table>SEC</table>
    <multiplicity>?</multiplicity>
  </child>
</parent>
```

**Foreign Key Example**

```
<parent>
<name>BRANCH</name>
  <child>
    <table>ORG</table>
    <foreignKey>true</foreignKey>
    <loadBeforeParent>false</loadBeforeParent>
    <removeBeforeParent>false</removeBeforeParent>
    <saveBeforeParent>false</saveBeforeParent>
    <multiplicity>*</multiplicity>
    <fields>ORG_ID</fields>
  </child>
</parent>
```

# FIG. 15

ATTY DOCKET NO.: 14846-23

```
<table>
  <name>PROXY_STATUS</name>
  <package>com.chase.gmdr.app.bom.</package>
  <sqlOptimise>
    <name>SELECT</name>
    <value>SELECT /*+ INDEX(PROXY_STATUS XPK_PROXY_STATUS) */</value>
  </sqlOptimise>
  <sqlOptimise>
    <name>UPDATE</name>
    <value>UPDATE /*+ INDEX(PROXY_STATUS XPK_PROXY_STATUS) */</value>
  </sqlOptimise>
</table>
```

# FIG. 16

```
<table>
  <name>PROXY_STATUS</name>
  <package>com.chase.gmdr.app.bom.</package>
  <partition>PROXY_TABLE_NAME</partition>
</table>
```

# FIG. 17

```
<table>
  <name>PROXY_PCS_OUTGOING</name>
  <assignPKFields>
    <name>PROXY_TABLE_NAME</name>
    <value>PROXY_PCS_OUTGOING</value>
  </assignPKFields>
</table>
```

# FIG. 18

ATTY DOCKET NO.: 14846-23

```

<!-- decoration stuff, for creational references -->
<decoration>
  <table>
    <name>default</name>
    <package>com.chase.gmdr.app.bom.</package>
  </table>

  <!-- here for test purpose only -->
  <table>
    <name>BRANCH</name>
    <package>com.chase.gmdr.app.bom.</package>
    <implementator>Branch</implementator>
  </table>
</decoration>

```

# FIG. 19

```

public void save(Connection con) throws PersistenceException {
    super.save(con);
    insertOwnedChildrenAfterParent(con);
}

public void load(Connection con) throws PersistenceException {
    super.load(con);
    selectChildrenAfterParent(con);
}

public void remove(Connection con) throws PersistenceException {
    super.remove(con);
    deleteOwnedChildrenAfterParent(con);
}

```

FIG. 20

ATTY DOCKET NO.: 14846-23

```

<parent>
  <name>FLOW</name>
  <child>
    <table>default</table>
    <loadBeforeParent>false</loadBeforeParent>
    <saveBeforeParent>false</saveBeforeParent>
    <removeBeforeParent>false</removeBeforeParent>
    <multiplicity>*</multiplicity>
    <fields>UNIQUE_FLOW_ID</fields>
  </child>
  <child><table>FLOW_CONFIRMATION</table></child>
  <child><table>FLOW_SETTLEMENT</table></child>
</parent>

```

FIG. 21

```

protected void insertOwnedChildrenAfterParent(Connection con)
throws PersistenceException {
    super.insertOwnedChildrenAfterParent(con);

    com.chase.gmdr.app.bom.FlowConfirmation.saveByUniqueFlowId(
        m_FlowConfirmationList, getRef(), con);

    com.chase.gmdr.app.bom.FlowSettlement.saveByUniqueFlowId(
        m_FlowSettlementList, getRef(), con);
}

protected void selectChildrenAfterParent(Connection con)
throws PersistenceException {
    super.selectChildrenAfterParent(con);

    m_FlowConfirmationList =
        com.chase.gmdr.app.bom.FlowConfirmation.loadByUniqueFlowId(
            GenFlowConfirmation.findByUniqueFlowId(getRef(), con, true),
            con);
    m_FlowSettlementList =
        com.chase.gmdr.app.bom.FlowSettlement.loadByUniqueFlowId(
            GenFlowSettlement.findByUniqueFlowId(getRef(), con, true),
            con);
}

protected void deleteOwnedChildrenAfterParent(Connection
con) throws PersistenceException {
    super.deleteOwnedChildrenAfterParent(con);

    com.chase.gmdr.app.bom.FlowConfirmation.removeByUniqueFlowId(
        getRef(), con);

    com.chase.gmdr.app.bom.FlowSettlement.removeByUniqueFlowId(
        getRef(), con);
}

```

```

/**
 * Foreign key finder helpers
 */

    static class FindByBranchOrgId implements SQLFinderUtil.SQLFinderBuilder {
        final static protected String s_REL_FINDBranchOrgId = s_PK_SELECTGenBranch +
"BRANCH_ORG_ID = ?";

        /**
         * Reference to the JDBC for finder parameters
         */
        public String findPK() {
            return(s_REL_FINDBranchOrgId);
        }

        /**
         * Add in filter parameters
         */
        public void filterPK(PreparedStatement ps, BOMObjectRef parent) throws SQLException {
            SQLUtil.setLong(ps, 1, ((GenBranch)parent).getBranchOrgId());
        }

        /**
         * Create the primary key reference
         */
        public java.io.Serializable buildPK(ResultSet rs) throws SQLException {
            return(new GenBranchPK(SQLUtil.getString(rs, 1)));
        }

        /**
         * The actual finder helper, following the template signature and
         * Naming convention
         */

        public static java.util.List findByBranchOrgId(GenBranch parent, Connection con, boolean isOptional) throws
PersistenceException {
            return(SQLFinderUtil.primaryKeyBuilder(new FindByBranchOrgId(), parent, con, isOptional));
        }

```



## FIG. 23

Inheritance Example:

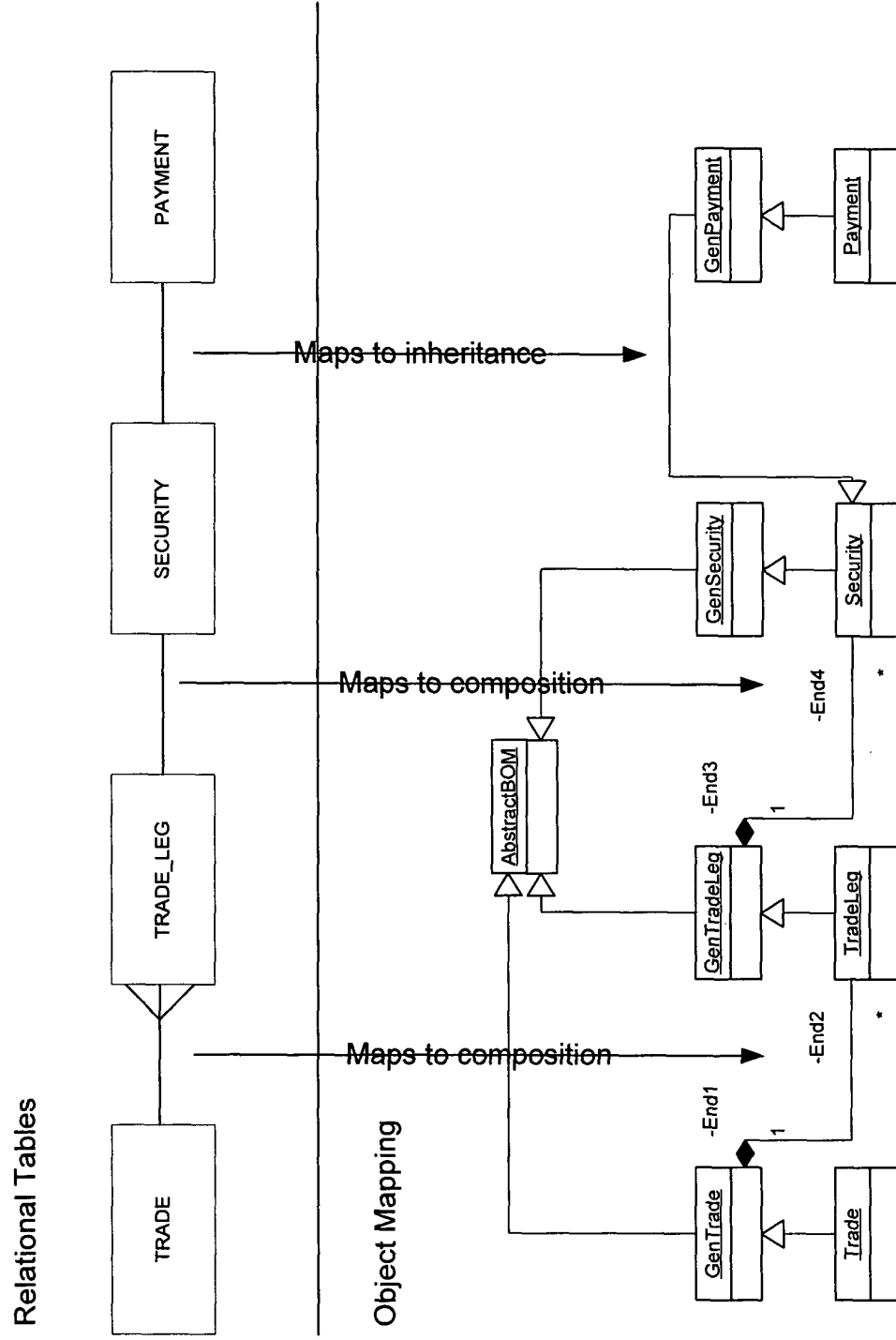
```
<inheritence>
  <table>
    <name>PAYMENT</name>
    <class>com.chase.gmdr.app.bom.Sec</class>
    <superTable>SEC</superTable>
  </table>
</inheritence>
```

## FIG. 24

Example of generated inheritance class:

```
public abstract class GenPayment extends com.chase.gmdr.app.bom.Sec {
  ...details of generated class removed...
}
```

FIG. 25



# FIG. 26

ATTY DOCKET NO.: 14846-23

```

<?xml version = "1.0"?>
<relationship>

  <!-- decoration stuff, for creational references -->
  <decoration>
    <table>
      <name>default</name>
      <package>com.chase.gmdr.app.bom.</package>
    </table>

    <!-- here for test purpose only -->
    <table>
      <name>BRANCH</name>
      <package>com.chase.gmdr.app.bom.</package>
      <implementator>Branch</implementator>
    </table>
  </decoration>

  <!-- parent, child relationships -->
  <parent>
    <name>TRANS</name>
    <child>
      <table>TRADE</table>
      <loadBeforeParent>>false</loadBeforeParent>
      <removeBeforeParent>>true</removeBeforeParent>
      <saveBeforeParent>>false</saveBeforeParent>
      <multiplicity>*</multiplicity>
      <fields>TRANS_ID</fields>
    </child>
  </parent>

  <parent>
    <name>BRANCH</name>
    <child>
      <table>ORG</table>
      <foreignKey>>true</foreignKey>
      <loadBeforeParent>>false</loadBeforeParent>
      <removeBeforeParent>>false</removeBeforeParent>
      <saveBeforeParent>>false</saveBeforeParent>
      <multiplicity>*</multiplicity>
      <fields>ORG_ID</fields>
    </child>
  </parent>

  <parent>
    <name>TRADE</name>
    <child>
      <table>default</table>
      <loadBeforeParent>>false</loadBeforeParent>
      <removeBeforeParent>>true</removeBeforeParent>
      <saveBeforeParent>>false</saveBeforeParent>
      <multiplicity>*</multiplicity>
      <fields>TRADE_ID</fields>
    </child>
  </parent>

```

FIG. 27

ATTY DOCKET NO.: 14846-23

```

    <child>
      <table>MTM_FIXING_TRADE</table>
      <multiplicity>?</multiplicity>
    </child>
    <child><table>TRADE_LEG</table></child>
    <child><table>TRADE_IDENTIFIER</table></child>
    <child><table>TRADE_STRATEGY</table></child>
    <child><table>TRADE_PRODUCT_INFO</table></child>
    <child><table>TRADE_CONFIRMATION</table></child>
    <child><table>TRADE_PRSN</table></child>
    <child><table>TRADE_COMMENT</table></child>
    <child><table>TRADE_QUOTE</table></child>
    <child><table>TRADE_CPTY_IDENTIFIER</table></child>
    <child><table>TRADE_AMOUNT</table></child>
    <child><table>TRADE_MANUAL_INDICATOR</table></child>
    <child>
      <table>GMCC_FX_SUMMARY</table>
      <multiplicity>?</multiplicity>
      <fields>GLOBAL_TRADE_ID</fields>
      <fields>SEQUENCE_NUMBER</fields>
    </child>
  </parent>

<parent>
  <name>TRADE_LEG</name>
  <child>
    <table>default</table>
    <loadBeforeParent>false</loadBeforeParent>
    <removeBeforeParent>false</removeBeforeParent>
    <saveBeforeParent>true</saveBeforeParent>
    <multiplicity>*</multiplicity>
    <fields>SEC_ID</fields>
  </child>
  <child>
    <table>MTM_FIXING_TRADE_LEG</table>
    <loadBeforeParent>false</loadBeforeParent>
    <removeBeforeParent>true</removeBeforeParent>
    <saveBeforeParent>false</saveBeforeParent>
    <fields>SEC_ID</fields>
    <fields>TRADE_ID</fields>
    <fields>TRADE_LEG_ID</fields>
  </child>
  <child>
    <table>SEC</table>
    <multiplicity>?</multiplicity>
  </child>
</parent>

```

FIG. 28

ATTY DOCKET NO.: 14846-23

```

<parent>
<name>SEC</name>
  <child>
    <table>default</table>
    <loadBeforeParent>false</loadBeforeParent>
    <removeBeforeParent>true</removeBeforeParent>
    <saveBeforeParent>false</saveBeforeParent>
    <multiplicity>*</multiplicity>
    <fields>SEC_ID</fields>
  </child>
  <child><table>FLOW</table></child>
  <child><table>SEC_IDENTIFIER</table></child>
  <child><table>SEC_HOL_CITY</table></child>
</parent>

<parent>
<name>FLOW</name>
  <child>
    <table>default</table>
    <loadBeforeParent>false</loadBeforeParent>
    <saveBeforeParent>false</saveBeforeParent>
    <removeBeforeParent>false</removeBeforeParent>
    <multiplicity>*</multiplicity>
    <fields>UNIQUE_FLOW_ID</fields>
  </child>
  <child><table>FLOW_CONFIRMATION</table></child>
  <child><table>FLOW_SETTLEMENT</table></child>
</parent>
</relationship>

```